

§ 27.1187

in the tank and its supports, the shut-off means, and the connections, lines and controls provide a degree of safety equal to that which would exist if the tank or reservoir were isolated from the engines.

(c) There must be at least one-half inch of clear airspace between each tank and each firewall or shroud isolating that tank, unless equivalent means are used to prevent heat transfer from each engine compartment to the flammable fluid.

(d) Absorbent materials close to flammable fluid system components that might leak must be covered or treated to prevent the absorption of hazardous quantities of fluids.

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27-2, 33 FR 964, Jan. 26, 1968; Amdt. 27-11, 41 FR 55470, Dec. 20, 1976; Amdt. 27-37, 64 FR 45095, Aug. 18, 1999]

§ 27.1187 Ventilation and drainage.

Each compartment containing any part of the powerplant installation must have provision for ventilation and drainage of flammable fluids. The drainage means must be—

(a) Effective under conditions expected to prevail when drainage is needed, and

(b) Arranged so that no discharged fluid will cause an additional fire hazard.

[Doc. No. 29247, 64 FR 45095, Aug. 18, 1999]

§ 27.1189 Shutoff means.

(a) There must be means to shut off each line carrying flammable fluids into the engine compartment, except—

(1) Lines, fittings, and components forming an integral part of an engine;

(2) For oil systems for which all components of the system, including oil tanks, are fireproof or located in areas not subject to engine fire conditions; and

(3) For reciprocating engine installations only, engine oil system lines in installation using engines of less than 500 cu. in. displacement.

(b) There must be means to guard against inadvertent operation of each shutoff, and to make it possible for the crew to reopen it in flight after it has been closed.

(c) Each shutoff valve and its control must be designed, located, and pro-

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tected to function properly under any condition likely to result from an engine fire.

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27-2, 33 FR 964, Jan. 26, 1968; Amdt. 27-20, 49 FR 6850, Feb. 23, 1984; Amdt. 27-23, 53 FR 34214, Sept. 2, 1988]

§ 27.1191 Firewalls.

(a) Each engine, including the combustor, turbine, and tailpipe sections of turbine engines must be isolated by a firewall, shroud, or equivalent means, from personnel compartments, structures, controls, rotor mechanisms, and other parts that are—

(1) Essential to a controlled landing; and

(2) Not protected under § 27.861.

(b) Each auxiliary power unit and combustion heater, and any other combustion equipment to be used in flight, must be isolated from the rest of the rotorcraft by firewalls, shrouds, or equivalent means.

(c) In meeting paragraphs (a) and (b) of this section, account must be taken of the probable path of a fire as affected by the airflow in normal flight and in autorotation.

(d) Each firewall and shroud must be constructed so that no hazardous quantity of air, fluids, or flame can pass from any engine compartment to other parts of the rotorcraft.

(e) Each opening in the firewall or shroud must be sealed with close-fitting, fireproof grommets, bushings, or firewall fittings.

(f) Each firewall and shroud must be fireproof and protected against corrosion.

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27-2, 22 FR 964, Jan. 26, 1968]

§ 27.1193 Cowling and engine compartment covering.

(a) Each cowling and engine compartment covering must be constructed and supported so that it can resist the vibration, inertia, and air loads to which it may be subjected in operation.

(b) There must be means for rapid and complete drainage of each part of the cowling or engine compartment in the normal ground and flight attitudes.

(c) No drain may discharge where it might cause a fire hazard.